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Observations of Comet 1884 *I.* (*Pons-Brooks*) *made at the Royal Observatory, Cape of Good Hope.*

(*Communicated by D. Gill, LL.D., F.R.S., H.M. Astronomer.*)

1884.		Cape Mean Time.	Comet – ★ Δα	Comet – ★ Δδ	No. of Comp.	Observer.	Comet's App. R.A.	Log. par. factor.	Comet's App. Dec.	Log. par. factor.	Reductions to Apparent Place.		Comp. Star.
		h m s	m s	′ ″			h m s				s	″	
Jan.	16	8 38 38·2	–2 3·65		4	F	23 23 28·29	8·729			–0·08	+ 0·8	1
		8 47 0·6		+5 55·6	3	F			– 4 37 19·7	9·731$_n$			1
	24	8 45 13·2	–0 51·39	+5 34·6	4·4	F	0 9 8·20	8·744	–17 35 56·8	9·657$_n$	–0·12	– 4·9	2
		8 53 42·2	–0 52·31		8	F	0 9 7·28	8·749					2
	26	8 44 29·2	–3 27·81	–2 50·0	8·8	F	0 11 32·46	8·772	–20 37 19·8	9·710$_n$	–0·15	– 6·0	3
	28	9 7 36·1	+3 25·46	+1 0·2	6·7	F	0 19 25·31	8·773	–23 16 11·1	9·654$_n$	–0·21	– 6·7	4
	29	8 44 31·5	–1 30·04	–3 37·2	8·8	F	0 23 4·33	8·767	–24 29 29·9	9·612$_n$	–0·21	– 7·4	5
Feb.	2	8 37 5·3	–0 25·57	–3 12·9	3·3	F	0 36 40·74	8·786	–29 0 57·2	9·580$_n$	–0·29	– 8·9	6
		8 46 21·4	–6 18·13	+6 26 9	2 2	F	0 36 42·45	8·790	–29 1 20·1	9·596$_n$	–0·26	– 9·3	7
	4	8 25 35·6	+1 24·83	–2 0·1	8·8	F	0 42 47·55	8·783	–31 1 38·0	9·515$_n$	–0·34	– 9·5	8
	6	8 27 16·6	+0 4·11	+3 58·1	20·20	F	0 48 32·92	8·795	–32 54 4·8	9·504$_n$	–0·38	–10·1	9
	7	8 33 44·0	–2 39·04	–3 42·30	8·8	F	0 51 17·98	8·804	–33 47 42·0	9·513$_n$	–0·38	–10·5	10
	9	8 51 35·7	+0 3·21		12	F	0 56 34 50	8·823			–0·42	–11·1	11
		9 3 28·4		–8 1·6	·10	F			–35 29 26·7	9·577$_n$			11

1884.		Cape Mean Time.	Comet - ✱ Δα	Comet - ✱ Δδ	No. of Comp.	Obser-ver.	Comet's App. R.A.	Log. par. factor	Comet's App. Dec.	Log. par. factor.	Reductions to Apparent Place.		Comp. Star.
		h m s	m s	″			h m s				s	″	
Feb.	10	8 36 49·0	−1 56·86	+0 54·5	12·12	F	0 59 2·90	8·821	−36 16 9·5	9·503$_n$	−0·46	−11·2	12
	12	8 50 55·2	−0 36·28	−0 24·5	10·10	F	1 3 53·55	8·837	−37 47 1·3	9·534$_n$	−0·52	−11·4	13
	15	8 25 36·4	+0 52·97	+1 35·2	10·10	F	1 10 39·46	8·841	−39 51 15·7	9·445$_n$	−0·59	−12·1	14
	17	8 33 35·0	−2 5·19	−2 38·9	6·6	F	1 14 56·84	8·855	−41 7 43·1	9·468$_n$	−0·65	−12·1	15
	18	8 50 39·8	−1 22·09	+7 48·8	12·12	F	1 17 4·81	8·866	−41 44 48·5	9·523$_n$	−0·68	−12·2	16
	19	8 35 31·4	−2 43·13	+1 21·5	4·4	F	1 19 7·41	8·865	−42 19 49·1	9·472$_n$	−0·70	−12·4	17
	22	9 15 5·5	+1 54·24	−6 16·1	6·6	F	1 25 13·13	8·886	−44 1 14·3	9·597$_n$	−0·81	−12·2	18
	24	7 35 0·1	+0 6·69	−4 50·8	12·12	F	1 29 0·92	8·853	−45 1 40·0	9·173$_n$	−0·86	−12·4	19
	25	8 0 54·0	−0 46·35	−8 16·4	12·12	F	1 30 59·92	8·877	−45 32 20·5	9·324$_n$	−0·89	−12·5	20
	26	8 22 21·8	−2 11·65	−2 29·6	10·10	F	1 32 58·16	8·893	−46 2 9·7	9·424$_n$	−0·91	−12·6	21
	27	8 10 44·3	−1 51·73	+5 12·1	10·10	F	1 34 53·73	8·892	−46 30 39·3	9·373$_n$	−0·97	−12·3	22
	29	8 28 5·4	−2 41·55	+5 10·3	10·10	F	1 38 48·25	8·908	−47 26 36·7	9·447$_n$	−1·01	−12·7	23
Mar.	2	8 19 4·1	−2 58·67	+3 59·7	12·12	F	1 42 40·76	8·914	−48 19 50·1	9·418$_n$	−1·07	−12·7	24
	3	7 55 18·1	+0 46·75	−0 53·9	6·6	F	1 44 36·51	8·909	−48 45 24·0	9·306$_n$	−1·13	−12·2	25
	4	7 59 36·2	−1 10·03	+0 50·6	12·12	F	1 46 35·40	8·915	−49 10 55·7	9·328$_n$	−1·15	−12·5	26
	7	8 18 23·9	+0 56·93	−0 50·2	20·20	F	1 52 36·82	8·935	−50 25 19·3	9·429$_n$	−1·26	−12·3	27
	8	8 19 52·3	−0 8·11		10	F	1 54 38·69	8·940			−1·28	−12·3	28
		8 29 22·2		−6 58·0	·10	F			−50 49 31·0	9·479$_n$			28

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1884.		Cape Mean Time.	Comet − ✱		No. of Comp.	Obser-ver.	Comet's App. R.A.	Log. par. factor.	Comet's App. Dec.	Log. par. factor.	Reductions to Apparent Place.		Comp. Star.
			Δα	Δδ									
		h m s	m s	′ ″			h m s				s	″	
Mar.	9	8 48 15·8	+1 20·05	−5 28·1	8·8	F	1 56 45·09	8·946	−51 13 24·4	9·530$_n$	−1·32	−12·2	29
	14	8 12 27·7	−1 6·38	−5 4·3	6·6	F	2 7 25·45	8·963	−53 7 3·5	9·421$_n$	−1·49	−12·2	30
	16	8 13 14·2	−3 18·81	−7 12·1	6·6	F	2 11 56·09	8·971	−53 51 12·7	9·432$_n$	−1·54	−12·5	31
	21	8 3 22·7	+2 30·54	+3 42·6	10·10	F	2 23 57·67	8·990	−55 38 45·5	9·393$_n$	−1·78	−11·7	32
	22	8 19 13·5	+1 9·00	−2 24·4	10·10	F	2 26 33·24	9·007	−56 0 15·0	9·460$_n$	−1·80	−11·8	33
	24	8 7 28·5	+0 32·02	+3 44·4	12·12	F	2 31 47·55	9·003	−56 42 5·1	9·419$_n$	−1·90	−11·8	34
	27	7 52 50·0	−1 12·45	−4 29·8	16·16	P	2 40 6·54	9·013	−57 44 31·2	9·336$_n$	−1·99	−12·1	35
	28	7 46 47·7	−1 59·46	+3 57·4	12·12	F	2 43 0·54	9·016	−58 4 59·2	9·298$_n$	−2·04	−12·2	36
Apr.	1	7 42 25·8	+0 43·08	−4 50·3	8·8	F	2 55 20·93	9·033	−59 27 12·3	9·270$_n$	−2·21	−12·1	37
	13	7 30 18·0	−0 49·55	+6 46·9	8·8	F	3 40 37·27	9·084	−63 26 15·6	9·012$_n$	−2·74	−14·1	38
	14	7 25 31·0	+1 12·20	+3 35·7	8·8	F	3 45 2·52	9·089	−63 45 18·6	8·984$_n$	−2·84	−13·4	39
	21	7 35 19·4	−1 58·03	+8 21·2	12·12	P	4 19 53·75	9·123	−65 51 52·1	8·903$_n$	−3·08	−16·0	40
	22	7 41 44·1	+0 38·77	−4 14·3	16·16	P	4 25 25·40	9·130	−66 8 46·8	8·968$_n$	−3·10	−16·0	41
	23	7 40 13·3	+1 34·79	−3 10·1	12·12	P	4 31 6·00	9·133	−66 25 4·4	8·903$_n$	−3·13	−16·3	42
	26	7 30 5·4		−1 13·1	·12	F			−67 11 23.7	8·309$_n$	−3·17	−17·6	43
		7 35 26·8	−0 28·28		15	F	4 48 54·50	9·143					43
	29	7 48 59·6		+7 33·4	·6	F			−67 53 14·8	8·690$_n$	−3·22	−19·1	44
		8 6 27·5	−1 50·15		10	F	5 8 12·54	9·164					44

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Mean Places of Comparison Stars.

No. of Star.	Mag.	Mean R.A. 1884·0.	Mean Dec. 1884·0.	Authority for Star's Place.
		h m s	° ′ ″	
1		23 25 32·02	− 4 43 16·1	3 Meridian Obs. Cape, 1884 = Lalande 46057.
2	10	0 9 59·71	−17 41 26·5	Equat. diff. from ∗ *a*.
a	8½	0 7 19·23	−17 49 49·0	3 Meridian Obs. Cape.
3	8½	0 15 0·42	−20 34 23·8	2 ,, ,,
4	8½	0 16 0·06	−23 17 4·6	A.Oe$_2$. 139 + Gould 0$^{\mathrm{h}}$·408.
5	5	0 24 34·58	−24 25 45·4	Stone 179, Gould 0$^{\mathrm{h}}$·639.
6	10½	0 37 6·60	−28 57 35·4	2 Meridian Obs., Cape.
7	6	0 43 0·84	−29 7 37·7	Stone 319.
8	9	0 41 23·06	−30 59 28·5	2 Meridian Obs., Cape.
9	6½	0 48 29·19	−32 57 52·8	Stone 353.
10	9½	0 53 57·40	−33 43 49·2	3 Meridian Obs., Cape.
11	10	0 56 31·71	−35 21 14·0	Equat. diff. from Stone 429.
12	6	1 1 0·22	−36 16 52·9	Stone 431.
13	10½	1 4 30·35	−37 46 25·4	3 Meridian Obs., Cape.
14	10½	1 9 47·08	−39 52 38·8	Equat. difference from ∗ *b*.
b	8	1 14 19·09	−39 58 26·9	2 Obs. Cape: Gould 1$^{\mathrm{h}}$·362.
15	9½	1 17 2·69	−41 4 52·1	,, Gould 1$^{\mathrm{h}}$·429.
16	6½	1 18 27·58	−41 52 25·1	Stone 545.
17	6	1 21 51·24	−42 20 58·2	,, 568.
18	3	1 23 19·70	−43 54 46·0	,, 580.
19	8	1 28 55·09	−44 56 36·8	Gould 1$^{\mathrm{h}}$·755.
20	9	1 31 47·16	−45 23 51·7	,, 1$^{\mathrm{h}}$·833.
21	9	1 35 10·72	−45 59 27·5	2 Meridian Obs., Cape.
22	8	1 36 46·41	−46 35 39·1	Equat. diff. from Stone 646.
23	9½	1 41 30·81	−47 31 34·3	1 Obs. Cape: Gould 1$^{\mathrm{h}}$·1055.
24	5½	1 45 40·50	−48 23 37·1	Stone 732.
25	9½	1 43 50·89	−48 44 17·9	Equat. diff. from ∗ *c*.
c	9	1 42 41·90	−48 48 13·2	1 Obs. Cape: Gould 1$^{\mathrm{h}}$·1086.
26	9½	1 47 46·58	−49 11 33·8	,, ,, 1$^{\mathrm{h}}$·1233.
27	6½	1 51 41·15	−50 24 16·8	Stone 769: Gould 1$^{\mathrm{h}}$·1331.

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No. of Star.	Mag.	Mean R.A. 1884·0.	Mean Dec. 1884·0.	Authority for Star's Place.
		h m s	° ′ ″	
28	8½	1 54 48·08	−50 42 20·7	2 Obs. Cape: Gould 1^{h}·1437.
29	8½	1 55 26·36	−51 7 44·2	Gould 1^{h}·1466.
30	9	2 8 33·32	−53 1 47·0	2 Obs. Cape, 1884.
31	9	2 15 16·44	−53 43 48·1	1 Obs. Cape: Gould 2^{h}·394.
32	9½	2 21 28·91	−55 42 16·4	2 Obs. Cape, 1884.
33	10	2 25 26·04	−55 57 38·8	Equat. diff. from ∗ *d*.
d	9½	2 24 38·24	−55 54 4·5	1 Obs. Cape: Gould 2^{h}·651.
34	10	2 31 17·43	−56 45 37·8	Equat. diff. from ∗ *e*.
e	8½	2 29 43·19	−56 49 40·0	2 Obs. Cape, 1884.
35	9½	2 41 20·98	−57 39 49·3	„
36	8	2 45 2·04	−58 8 44·4	Gould 2^{h}·1231.
37	8	2 54 40·06	−59 22 9·9	1 Obs. Cape: Gould 2^{h}·1483.
38	9½	3 41 29·56	−63 32 48·4	Equat. diff. from ∗ *f*.
f	9	3 44 36·47	−63 31 19·6	1 Obs. Cape: Gould 3^{h}·1347.
39	10½	3 43 53·16	−63 48 40·9	Equat. diff. from ∗ *g*.
g	9	3 41 28·06	−63 48 50·7	1 Obs. Cape: Gould 3^{h}·1243.
40	9	4 21 54·86	−65 59 57·3	„ „ 4^{h}·711.
41	8	4 24 49·73	−66 4 16·5	„ „ 4^{h}·823.
42	8½	4 29 34·34	−66 21 38·1	2 Obs. Cape, 1884.
43	10½	4 49 25·95	−67 9 53·0	Equat. diff. from ∗ *h*.
h	9	4 49 15·70	−67 1 36·8	2 Obs. Cape, 1884.
44	9	5 10 5·91	−68 0 29·1	„ „

Notes.

Jan. 16. Head very bright.

24. Tail faint and less than 2° in length; quite straight.

28. Observations interfered with by clouds.

29. No trace of a stellar nucleus could be seen.

Feb. 4. Stellar nucleus, surrounded by coma almost as bright.

6. Head much more diffused.

9. Poor definition. Comet's head very diffused; takes about 1^{s} to transit the wire.

15. Tail very faint. At 8^{h} 15^{m} mean time I can trace it in the finder to the bright star following, and about half as far again. It is narrow and straight; the bright star is just inside its southern edge.

25. A very faint tail visible in the finder; position-angle approximately 134°.

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Feb. 26. Position angle of tail = 114°. Traces of another very faint tail could just be seen at position angle 153° ± (see figure).

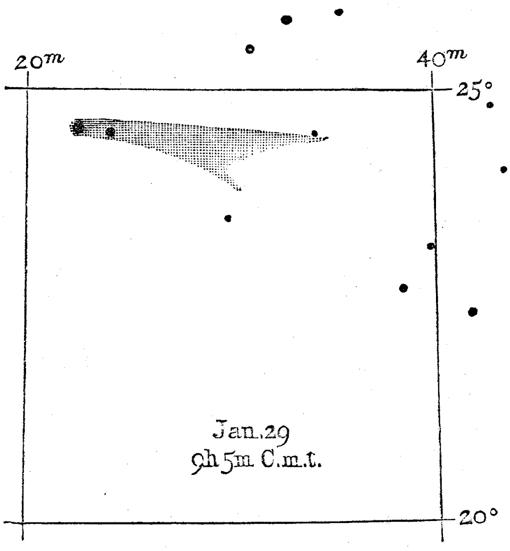
29. Definition poor, looking through vapour on the mountain. Comet a difficult object to bisect.

Mar. 2. Occasional glimpses of a star-like nucleus: the point observed was in following part of head (where the nucleus was seen).

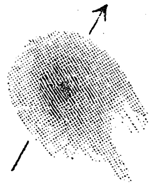
21. Head bright, but ill-defined, surrounded by nebulous mass. Still faint trace of very short tail.

Apr. 13. An 11th magnitude star near the Comet very troublesome. The Comet was almost centrally over this star earlier in the evening, and the star then was brighter than when the Comet had passed away from it. The moonlight was, however, increasing rapidly towards the end of the measures.

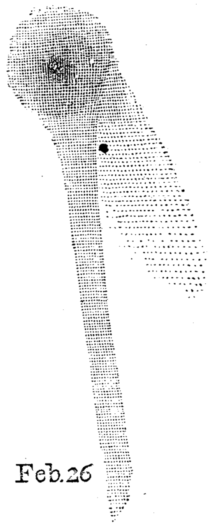
21. Exceedingly faint.



Jan. 29
9h 5m C.m.t.



Feb. 25



Feb. 26

Observations of Comet 1884 *II.* (*Barnard*), *made at the Royal Observatory, Cape of Good Hope.*

(*Communicated by David Gill, LL.D., F.R.S., H.M. Astronomer.*)

The following observations are in continuation of those given in vol. xlv. 1:—

Date.	Cape Mean Time.	Comet—Star. Δα	Comet—Star. Δ N.P.D.	No. of Comp.	Observer.	Comparison Star.
Oct. 14	9 53 42·7	−0 6·41	+4 38·1	32·16	F	r = AOe$_2$ 21151.
15	9 45 49·0	−0 4·28	−2 33·9	24·16	F	s
16	11 1 50·6	−0 17·32	−2 37·0	16·12	F	t
17	9 56 51·5	+0 35·86	+3 42·1	24·16	F	v
20	10 33 4·0	−0 1·70	−1 31 2	16·8	F	w
24	10 26 26·6	−0 30·77	+0 49 1	6·14	F	x